Robotics Engineering BS Degree
Curriculum Chart 2011-2012

Math
- MATH 19A Calculus
- MATH 19B Calculus
- MATH 23A Multivariable Calculus
- CMPE 8 Intro Robot Automation
- CMPE 16 or 16H Discrete Math
- AMS 10 Math Methods for Engineers I
- AMS 20 Math Methods for Engineers II
- MATH 21 Linear Algebra
- MATH 24 Differential Equations
- EE 103 Signals & Systems
- CMPE 107 Stochastic

Programming
- CMPE 12/L Computer Systems & Assembly Language
- CMPE 13/L* Computer Sys. & C Prog.
- CMPS 12B/M Data Structures
- CMPS 12A/L* Intro to Programming

Science and Mechanics
- PHYS 5A/L or 6A/L Mechanics
- CMPE 9 Statics, Dynamics, and Biomechanics
- PHYS 5C/N or 6C/N Electricity & Magnetism
- CMPE 115 Solid Mechanics

Digital Electronics
- CMPE 100/L Logic Design
- CMPE 121/L Micro Systems
- EE 101/L Electronics
- CMPE 174 PCB Tool

Robotics
- CMPE 118/L Introduction to Mechatronics
- EE 154 Feedback Control Systems
- CMPE 167/L Sensors
- Advanced Robotics Elective
  - CMPE 215, Models of Robotic Manipulation
  - CMPE 240, Linear Dynamical Systems
  - CMPE 242, Applied Feedback Control

Breadth
- CMPE 80E Engineering Ethics (or approved course)
- CMPE 185 Tech Writing
- Upper Division or Graduate Elective from Approved List

Capstone
- Computer Engineering Design Project I: CMPE 123A
- Computer Engineering Design Project II: CMPE 123B
  - OR
  - Senior Thesis: CMPE 195
- Project Portfolio (http://www.cc.ucsc.edu/portfolio), Exit Survey, and Exit Interview

* Preferred
* May substitute with CMPS 5J AND CMPS 11
## Approved List of Upper Division Electives

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### Or Any 5-Credit CS, CE, or EE Graduate Course:

- At most, one elective may be substituted by an upper-division individual or field study (CMPE, CMPS, EE 193 or 198) with approval.

### Approved List of Ethics Courses:

- CMPE 80E Engineering Ethics
- PHIL 22 Intro to Ethical Theory: Contemporary Moral Issues
- PHIL 24 Intro to Contemporary Ethics
- PHIL 28 Environmental Ethics
- BME 80G/PHIL80G/CHM80G Bioethics in the 21st Century: Science, Business, and Society

### I have discussed the BS/MS program with my advisor.

**STUDENT’S NAME:** __________________________  **FACULTY ADVISOR:** __________________________

**STAFF ADVISOR:** __________________________

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**Watch for CEFULs:** CE Faculty-Undergraduate Lunches, regularly scheduled throughout the year, CE’s free lunch program.